

Apprenticeship in Montana and the Growing Demand for Apprenticeable Jobs

By Nick Holom, Economist



Apprenticeship is evolving in Montana to meet the needs of our changing economy. While it is still a popular route for those seeking careers in traditional trades, such as electricians and plumbers, more employers are realizing the benefits of the apprentice program and are expanding apprenticeship to new occupations and industries. For workers, this means even more pathways to gain the skills needed for a rewarding career. As Montana prepares workers for the future, apprenticeship will help to meet workforce demand.

What is Registered Apprenticeship?

Montana's Registered Apprenticeship program is a work-based learning opportunity involving both classroom time and on-the-job training. Apprentices are paid employees, working for a sponsor, which allows them to earn while they learn. Typically, an apprenticeship lasts three to four years (although some programs are shorter). Upon graduation, the apprentice is awarded an industry-recognized certificate, indicating to employers across the U.S. that the worker is trained and qualified.

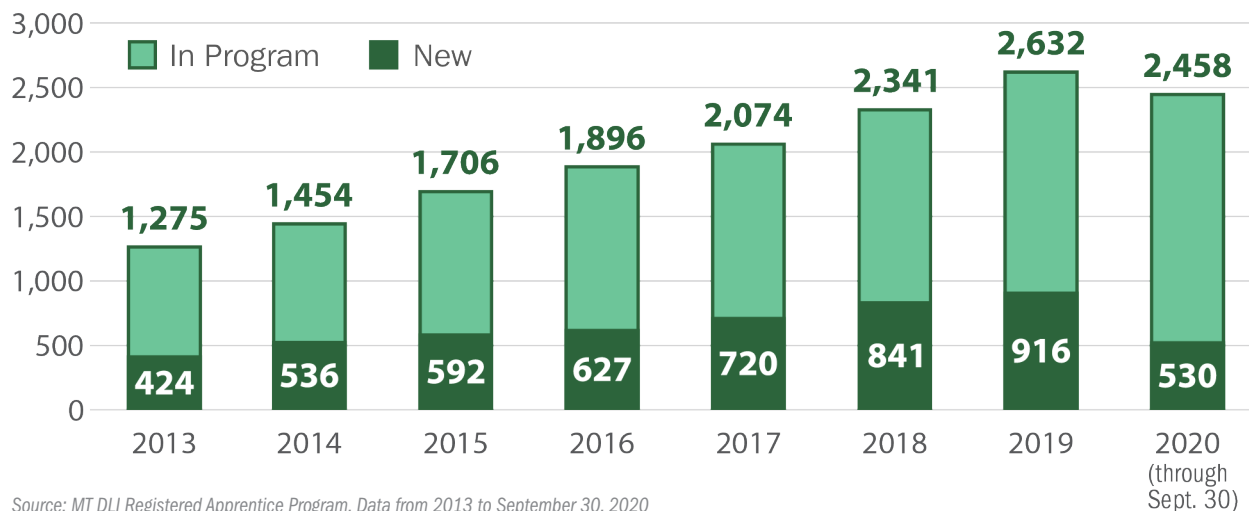
Working with the Montana Registered Apprenticeship Program, businesses establish a customized curriculum to meet the employer's needs. The Montana Department of Labor & Industry's Registered Apprentice Program is a recognized State Apprenticeship Agency by

the U.S. Department of Labor, allowing the Department to monitor the apprenticeship and award the apprentice credentials.

Growth in the Apprenticeship Program

Since 2000, Montana has had over 9,900 apprenticeships in more than 110 different occupations. The number of programs continues to grow each year, increasing the number of apprenticeships in various fields. **Figure 1** illustrates steady apprenticeship growth over the years. From 2013 to 2019, active apprenticeships have increased by approximately 1,400. Growth in apprenticeship is increasing, with 916 new apprenticeships in 2019 compared to 424 in 2013. Apprenticeships are on track to continue expanding in 2020, even during the COVID-19 pandemic.

FIGURE 1
Growth in Apprenticeships

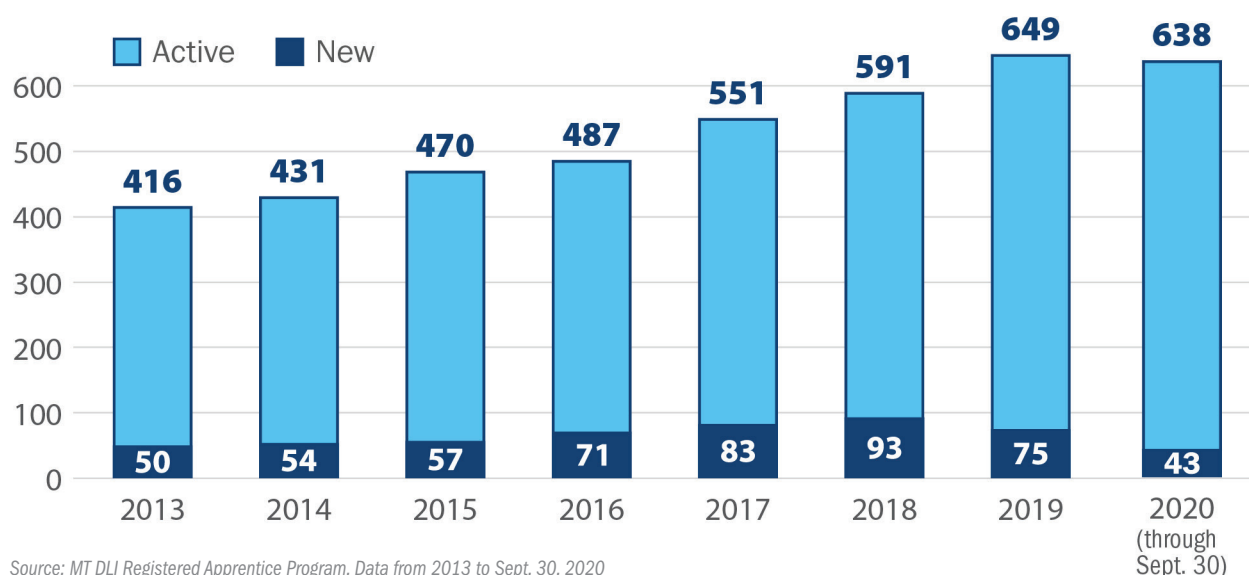


Apprenticeship helps to fill the shortage of skilled workers in the labor market. The rise in apprenticeship seen over the last several years can be partially explained by employment growth and a shortage of workers. As labor markets tightened, businesses had a challenging time finding qualified workers, which led more firms to create apprenticeship programs. As workers and companies respond to the pandemic's disruptions, work-based learning will continue to serve as an essential path for workers to new occupations.

Businesses continue to recognize the opportunity of apprenticeship programs in Montana, with over 1,300 sponsoring apprentices since 2000. More firms have participated in the apprenticeship

program over the years, increasing the availability of apprenticeship opportunities. **Figure 2** shows the increase in business sponsors from 2013 to 2019.

FIGURE 2
Active and New Business Sponsors



Businesses in 54 out of Montana's 56 counties have participated in apprenticeship, demonstrating widespread demand. Most apprenticeship sponsors are in Montana's more populated counties, such as Yellowstone, Gallatin, Cascade, and Lewis and Clark counties. However, growth in apprenticeships from 2018 to 2019 has been high in Custer, Ravalli, and Silver Bow counties.

More Industries, More Occupations

About 650 businesses sponsored an apprentice in the past year. New business sponsors are added every year, creating diverse opportunities for those interested in work-based learning.

Figure 3 displays the industry breakdown of sponsors in the past year. A clear majority are

FIGURE 3
New Registered Apprenticeship Occupations Added since 2019

Industry	Sponsors
Construction	513
Health Care and Social Assistance	57
Manufacturing	13
Other Services (except Public Administration)	12
Professional, Scientific, and Technical Services	11
Utilities	9
Public Administration	8
Retail Trade	6
Administrative and Support Services	6
Wholesale Trade	3
Transportation and Warehousing	2
Information	2
Educational Services	2
Accommodation and Food Services	2
Finance and Insurance	1
Management of Companies	1
Arts, Entertainment, and Recreation	1
Total	649

Source: MT DLI Registered Apprentice Program. Data includes active apprenticeship sponsors in 2019.

in the construction industry, which makes up 79% of the total businesses involved in apprenticeship in 2019. Several construction occupations require an apprenticeship as part of state licensure, such as electricians and plumbers, which explains the industry's large share of the apprenticeship program. Health care and social assistance and manufacturing are the second and third largest industries by total businesses and apprenticeships. Some businesses have started the first apprenticeship programs in their industries, including programs for lodging managers and cooks in the accommodation and food services industry and a computer systems administrator program in the information industry.

Newly added occupations, especially those in the health care industry, have contributed to more women participating in apprenticeship. Since 2019, new apprenticeships in health care occupations include EMTs and paramedics, health technologists and technicians, nurse practitioners, and registered nurses. In addition, apprenticeship has been expanded to other occupations such as truck drivers, small engine mechanics, and professional brewers, helping to meet the diverse demands of Montana's economy.

Benefits to Employers and Workers

One of the main benefits to employers is that Montana retains many apprenticed workers after certification, improving the skilled labor pool.

Figure 4 shows that graduates are more likely to stay in Montana than workers who started an apprenticeship program but did not complete it. Over 92% apprentices who graduated before 2018

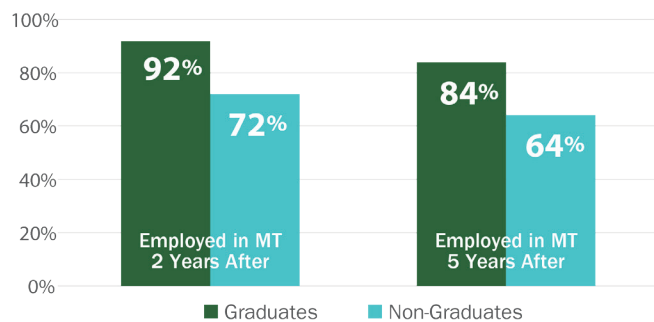
were still employed in Montana two years later, and 84% of those who graduated before 2015 were still employed in Montana five years later.

High wages contributes to the increased retention of workers who complete apprenticeships.

Figure 5 shows that one year after graduation, apprentices earn wages that are \$11,600 higher than the median wage in Montana. Throughout their training period and in the five years after graduation, apprentices increase their earnings by approximately \$3,200 per year. The high wages of apprentices suggest they are getting a good return on their investment, consistent with other apprenticeship research.

Apprentices earn while they learn, allowing them to support their families and reduce reliance on debt while obtaining an industry-recognized credential. This likely contributes to the relatively high completion rate of apprenticeship in Montana. **Figure 6** shows that since 2000, 38% of all apprentices finished a program, 36% canceled a program without ever completing or joining another program, and 26% are in ongoing apprenticeships. Depending on the apprenticeship,

FIGURE 4
Worker Retention

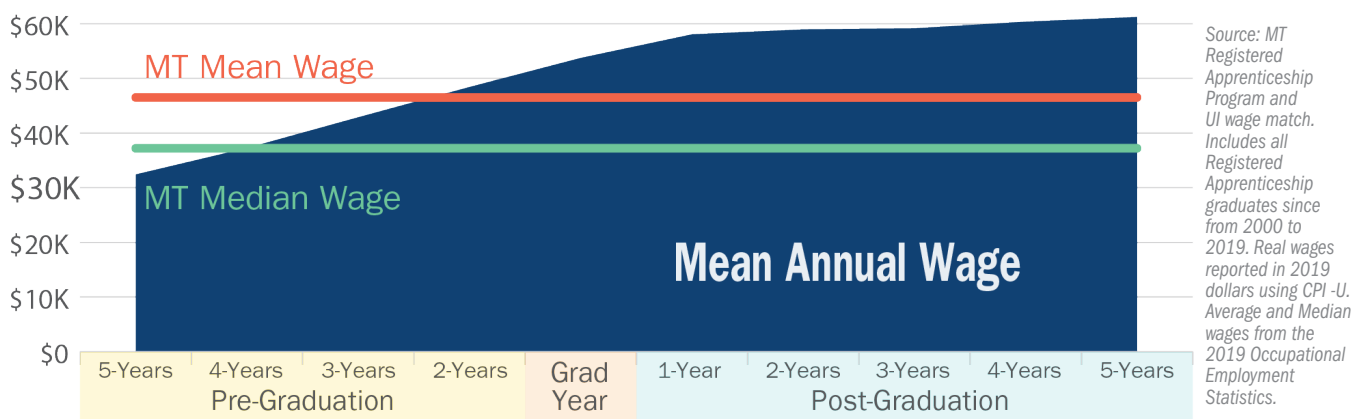


Source: MT DLI Registered Apprenticeship Program Data 2000 to September 30, 2020

the expected completion time is between three to four years. Roughly 61% of concluded apprenticeships finished on time, with the average time to completion at approximately 3.5 years.

A completion rate of 38% is relatively high compared to similar training programs. For example, 26% of first-time, full-time associate degree seekers successfully graduated within four years among those entering the Montana University System schools in 2016.¹ Apprenticeships require the willingness of both the apprentice and the employer to begin and continue the agreement, potentially raising completion rates.

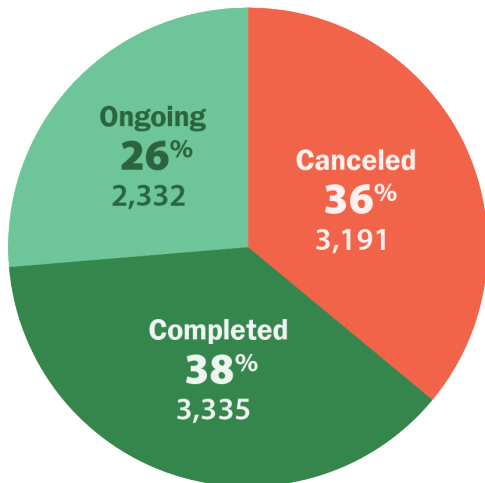
FIGURE 5
Average Wages of Apprentice Before, During, and After Graduation



Source: MT Registered Apprenticeship Program and UI wage match. Includes all Registered Apprenticeship graduates since from 2000 to 2019. Real wages reported in 2019 dollars using CPI-U. Average and Median wages from the 2019 Occupational Employment Statistics.

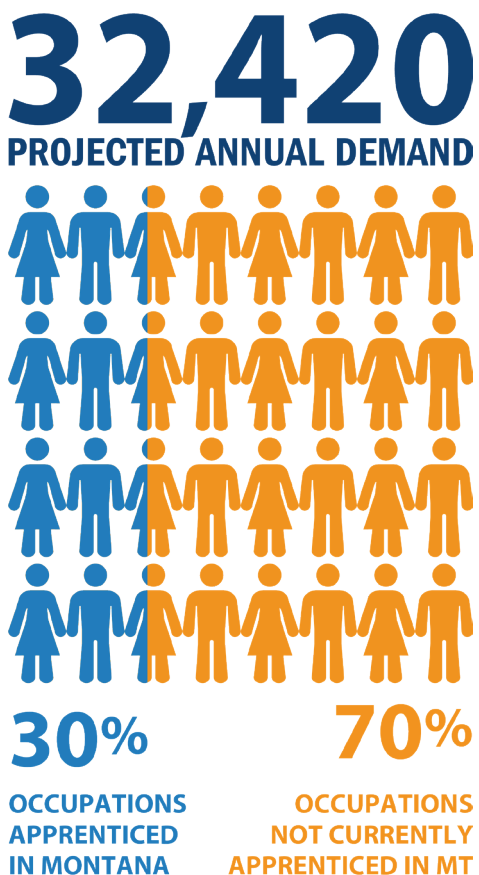
¹ Montana University System, Graduation Rates, Student cohort FY2016. Available at <https://mus.edu/data/dashboards/graduation-rates.asp>.

FIGURE 6
Individual Apprentices by Outcome



Source: MT DLI Registered Apprentice Program Data, 2000 to Sept. 30, 2020

FIGURE 7:
Projected Annual Demand
Apprenticeable Vs. Already Apprenticed in MT



Source: MT DLI Registered Apprentice Program & MTDLI Occupational Employment Projections 2019-2029

Apprenticeship and Future Demand

Nationally, nearly 1,200 occupations have been deemed apprenticeable. In Montana, 110 occupations have been apprenticed so far. Montana still has room to grow apprenticeship to new occupations. **Figure 7** shows the projected demand for apprenticeable occupations. The projected demand is as high as 32,420 jobs each year over the next ten years. Montana has already apprenticed occupations that account for roughly 30% of that demand.

Many high-growth occupations are already apprenticed in Montana. For example, the annual need for carpenters, construction laborers, and truck drivers is projected to be 900 to 1,000 jobs per year for each occupation. Electricians, plumbers, nursing assistants, and computer support specialists are also projected to have high demand.

A variety of high-growth occupations have been deemed apprenticeable by the U.S. Department of Labor but have yet to be apprenticed in Montana. The list includes general managers, software developers, property managers, social and human service assistants. Annual demand in these occupations is projected to be between 70 and 550 jobs per year for each. Expanding apprenticeship to these high-growth occupations will help industries fill skills gaps and meet future workforce demand.

Conclusion

Montana's Registered Apprentice Program continues to evolve with the needs of the economy. The apprenticeship program's consistent growth is evidence that employers and their apprentices recognize the value of apprenticeship. For workers and businesses, apprenticeship is an investment that pays dividends by helping fill skills gaps in the workforce and by providing workers the opportunity to boost their career and their income. As Montana prepares the workforce for the future, the apprenticeship program will play a critical role in developing new pathways that connect workers to rewarding careers.